

# American Journal of Progressive Therapeutics

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VOL. XVIII

**PROSPECTUS**

1906

# The American Journal of Progressive Therapeutics

Consolidation of THE AMERICAN X-RAY JOURNAL and  
THE ARCHIVES OF ELECTROLOGY AND RADIOLOGY

Published Monthly by The American Progressive Publishing Co.

H. PRESTON PRATT, M. D., Editor.

A. W. SMITH, M. D., Associate Editor.

The official organ of the American Progressive Therapeutic Society, The Illinois Progressive Therapeutic Society and The Chicago Progressive Therapeutic Society.

The American Journal of Progressive Therapeutics is devoted to Electrical Science, X-Ray Photography, Electro-Therapy, Radio-Therapy, Photo-Therapy, Thermo-Therapy, Hydro-Therapy, Animal-Therapy and Psycho-Therapy. In fact, every new therapy of value will find place in its columns. Medical, Dental and Surgical application of Electricity and allied forces.

It is the aim of this Journal to supplement this work by giving information in departments other than drug-therapy, and to offer a forum in which new views and new methods may receive a fair hearing and impartial criticism.

Original articles will appear in the Journal from time to time from the ablest writers in the world on these and other allied subjects of special interest to the medical profession. Complete abstracts and reviews will be made of important articles published in the leading medical and scientific publications of the world.

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This Journal is the leading scientific publication in this country along the lines of Progressive Therapeutics. It will be enlarged and greatly improved this year, and it will be our aim to assist the general practitioner by reviews of valuable articles found in "up-to-date" medical literature, and the hospitals and colleges by publishing reports of important clinical cases. You cannot very well afford to be without it.

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# The American Journal of Progressive Therapeutics

VOL. XVIII.

DOWNERS GROVE, ILL., JANUARY, 1906

No. 1

## THE DRUGLESS TREATMENT OF VALVULAR HEART DISEASE\*

By OTTO JUETTNER, M. D., PH. D.

President American Progressive Therapeutic Society, Professor of Practice Cincinnati Post-graduate School of Physiological Therapeutics, Author of "Modern Physio-Therapy, a Text-book of Physiological Therapy."

The condition of one or more of the heart valves may be one of insufficiency, giving rise to a regurgitation (backward flow) of the blood. Thus there may be mitral, aortic, tricuspid or pulmonic insufficiency and resulting regurgitation. The valve openings may be narrowed by cicatricial formations, deposits or vegetations, producing a condition of stenosis, causing a partial obstruction to the blood current. Thus there may be mitral, aortic, tricuspid or pulmonic stenosis and resulting obstruction. Familiarity with the anatomy of the heart and the physiology of the circulation is necessary in order to understand the peculiar changes in the heart itself and the secondary effects on the circulatory system which follow insufficiency or stenosis of one of the heart valves. These changes are subsequent to the crowding back of the blood mass, and, as a result, the increase of blood pressure in a retrograde direction and the alterations in the whole circulatory system.

Nature tries in conditions of this kind to stay the inevitable result by

fortifying the weakening heart muscle. In this way the disturbed relation of arterial and venous pressure is temporarily restored. The heart muscle increases in size to meet the demand for more pumping power. The changes in the structure of the heart are the so-called compensatory hypertrophies. They represent nature's attempt to prolong the life of the patient.

The therapeutic indications in all cases of valvular disease of the heart are necessarily similar, because of the effects of all valvular regurgitations or obstructions are practically identical. In the case of a regurgitation we are dealing with a decrease in the pumping power of the central circulatory organ. In the case of an obstruction the pumping power *per se* is unimpaired, but the caliber of a main pipe is reduced. In either case the proportion between the quantity of blood in the pulmonary circulation and in the general circulation is disturbed. Stagnation is the result, with uneven distribution of the blood mass in the different parts of the circulatory system. The lungs are

\* Written for this Journal.



over filled, the flow of the blood in the large veins of the general circulation becomes more and more sluggish, more blood is crowded back, while the blood coming from the lungs or entering the aorta becomes less and the arterial pressure in the system at large is gradually reduced. The pulmonic hyperemia causes dilatation of the pulmonic vessels, especially of the capillaries surrounding the alveolar spaces. Eventually the delicate capillaries cannot resist the pressure of the constantly increasing blood mass. Rupture of capillary vessels, a hypostatic congestion and catarrhal conditions are the result. The chronic hyperemia causes hyperplastic and hypertrophic changes in the tissues. The lung parenchyma increases in size, connective tissue proliferates and a cirrhotic or fibroid condition of the lungs is the result.

The stagnating blood mass increases the pressure in the venous circulation of the liver, the spleen, the pancreas, the kidneys, in fact, all the organs of the body. Chronic passive hyperemias in these organs, especially in the kidneys, and impairment of the secretory and especially the excretory function of these organs are the result. The lowered heart's action and the pressure of the sluggish venous circulation produce capillary stagnation thruout the system. Owing to the defective excretion there is a retention of liquids in the body, causing distinct liquefaction of the blood. The aqueous elements of the blood pass through the vessel walls in large quantities and enter the connective tissue, causing oedematous swellings.

The natural history of valvular heart disease, as outlined above, contains the therapeutic indications. The objects of the treatment should be to diminish the quantity of fluids in the body (depletion of the pulmonary and the general venous circulation, unloading the heart and the kidneys, and in

this way to re-establish, as far as possible, the proportion between arterial and venous pressure and to counteract the pathological changes in the different structures and organs of the body).

These effects represent the physiological purposes of rational therapy in the treatment of organic diseases of the heart. In this respect the physio-therapeutic methods occupy a commanding position, because they are directly adapted to the working out of these mechanical problems.

The physiological effects of diminution of the liquids of the body concern primarily the vascular system. The lessened amount of the blood which circulates in and thru them causes the vessels to accommodate themselves to the diminished blood mass and blood pressure. As a result the vessels contract, unless the walls of the vessels have by long continued intra-vascular pressure lost their tone. This is the case in the last stages of circulatory disease. After forced abstraction of fluid from the body, the physiological equilibrium can be maintained by regulating the amount of the fluids which enter the body (drink). The secondary effect of forced abstraction of fluids from the body is the absorption of the serum which has accumulated in the cavities of the body and in the connective tissue (dropsy).

Systematic exercise is of superlative value as an agent for the reduction of liquids in cases of organic heart disease. The Swedish method consists in thoro massage and passive movements of all parts of the body, administered every day or two. This plan is applicable in weak patients or during inclement weather. It must be carried out in a thoro and systematic manner to be of any avail. Slight improvement usually follows after two or three weeks of treatment. The Nauheim plan was evolved from the Swedish method. It consists in



massage and in the systematic application of mild concentric and excentric Swedish movements. The patient's strength must not be taxed. Resistance must be slight and never carried to the point of fatigue, dyspnea or palpitation. Individualization means everything in these cases. The patient is treated every day, massage and movements being properly measured and alternated. In addition thereto, baths in saline water and other hydrotherapeutic measures are employed to stimulate the skin and aid in the eliminative process. M. J. Oertel, whose excellent monograph on this subject should be read by every physician who attempts to treat heart disease, advises active exercise, and gives explicit directions concerning respiratory gymnastics which are accentuated by the patient walking uphill. The patient is made to take ten or twelve steps ascending a hill, and then instructed to rest in the standing posture. Inspiration is long, deep and forcible, while expiration is short and rapid. Excretion thru the lungs and thru the skin is increased and the exchange of gases in the lungs becomes more nearly normal. Oertel supplements therapeutic mountain climbing with inhalation of compressed air. The object of the latter is the mechanical expansion of the lungs after the decrease of aqueous elements has begun. After four to six weeks of respiratory gymnastics, as outlined above, inhalations of compressed air four or six times daily, thirty minutes each time, are given, beginning with 1-100 atmosphere and gradually increasing the pressure. The treatment must be continued for months and years.

The degree of blood pressure in the veins depends largely upon the position of the body as a whole, the position of the several parts of the body, and the relative state of contraction and relaxation of the muscles. Pres-

sure is lessened by putting the body in the horizontal position. It would appear, therefore, that the best effects can be produced by putting the patient on his back and administering deep centripetal effleurage. Passive movements of the extremities should be added to enhance the depleting effect. This is a good mechano-therapeutic measure for advanced cases, and where the application of Oertel's method is not practical or practicable. Vibration can be added to accentuate the effect of massage. Vibrate contripetally along the course of the large venous trunks in the extremities. If compensation is good, vibration over the precordial space improves the quality and retards the rate of the heart beats. Central stimulation along the upper dorsal vertebrae is useful in many instances. Vibratory treatments should not be too long continued.

Hydro-therapy and thermo-therapy are powerful agents in the treatment of organic heart diseases. In careless or reckless hands they are dangerous agents. If properly used, their value can hardly be over-estimated. They help in the slow dehydration of the system which should be the first aim in the therapy of heart lesions. The large thermic cylinder is in my estimation a most valuable adjunct. Its use should be mild and be adapted to the features of the individual case. It should be used as a gentle diaphoretic agent once or twice a week. The temperature need not exceed 200 degrees F. The patient should perspire without much heat or depression. General massage should always be administered after a sweat bath of this kind. Instead of the thermic cylinder the general electric light bath, the warm vapor bath, the warm sitz bath, or hot packs to the lower portions of the body might be made use of. Cold applications are contra-indicated in heart cases on account of the sudden congestion of the

deep vessels coincident with the primary cutaneous anemia which is produced by cold packs, etc. The heart might not be equal to the suddenly imposed task of increased function.

All the therapeutic agents named, especially active movements and dry heat, are contra-indicated in cases of imperfect compensation, of dilatation, atheromatous degeneration of the vessel-walls, arteriosclerosis of the heart and blood vessels. They are only applicable when the vessels are in fairly good condition and the heart is protected by a compensatory hypertrophy. Inflammatory conditions of the heart are a contra-indication to precordial vibration.

The patient must be enjoined to avoid anything and everything that might tax the working powers of his heart, e. g., excitement, fright, exertions, sexual indulgence, etc. All the energy of the patient, especially in the advanced stages, should be therapeutically utilized.

Regulation of the patient's diet is very essential. The quantity of liquids must be reduced as much as the patient will stand. This is in keeping with the idea of dehydration of the system which Oertel considers the alpha and omega of therapy in these cases. Alcohol and tobacco should be avoided. Meat can be allowed in moderate quantities, if the stomach will stand it. In the first stage of valvular disease of the heart a consistent vegetable diet is physiologically indicated to aid in the process of oxidation and prevent waste accumulation. In the advanced stages the administration of tissue-building foods is necessary. The colon should be irrigated every second or third day, with the patient lying down on the left side.

The general management of a case should include all the hygienic necessities that people ordinarily are apt to ignore. Sun baths help to dehydrate

the system. Pleasant surroundings and agreeable mental impressions preserve the vitality of the nervous system. It must be remembered that valvular heart disease *per se* is incurable. The object of the therapeutic directions given is to establish a *modus vivendi* that will enable the patient to live as long and as comfortably as is possible under the circumstances. The patient is on the down grade. If he follows the plan outlined he will postpone the inevitable and render his life more agreeable to himself and more useful to his surroundings than he could if he fails to adapt his mode of living to the requirements of his condition. The habitual use of so-called heart tonics, heart stimulants, etc., cannot be too emphatically condemned (Oertel). Their use is analogous to the whip by which a wind-broken horse is made to run until exhaustion of the vital forces causes it to collapse. Digitalis, spartein, strophanthus, glonoin, etc., undoubtedly produce a display of increased energy on the part of the heart, which fact makes them available as ready means of bridging a patient over a momentary weakness. Their use is in such a case the lesser of two evils. To employ them in the regular treatment of these ailments is purely symptomatic treatment and physiologically not justifiable. The treatment of circulatory disturbances must be centrifugal. Regulate the circulation in the vascular system and you will regulate the heart. The drug-dispensing empiric proceeds vice versa, i. e., in a centripetal direction. He whips up the heart in order to adjust irregularities of the vascular system. He whips up the kidneys by diuretics in order to prevent waste retention, which is the physiological sequence of the disproportion in the arterial and venous pressure in the kidneys. It may be more convenient to proceed in this manner, but it certainly is not on the level of

physiological knowledge which the researches of Leyden, Pettenkofer, Schott, Funke, Seguin, Landois and others have given us on the subject of the physiology of the circulatory apparatus.

A number of electrical modalities can be advantageously employed in valvular disease of the heart. Systemically, the high frequency current is of the greatest benefit (D'Arsonvalization). It can be applied locally by means of a vacuum tube to the dorsal section of the cord and to the sides of the neck (vagus). Galvanization or faradization is useful in impending heart failure. The positive sponge electrode is placed below the ear, the negative over the heart, and moved about. The current should be mild, and, if it is a faradic current, rapidly interrupted. Static electricity can be administered by means of insulation (positive, sedative; negative, stimulating), negative spray to spine (stimulating), general positive spray (sedative). The electric water bath is beneficial but requires great caution. Ex-

posure of the precordium to Minin rays frequently has a prompt anodyne effect.

The details of treatment depend to a large extent on the features of the individual case. The suggestive influence of the physician is a powerful factor in preparing the soil for physiological treatment. Much will depend on the functional integrity of the stomach. It should be preserved and protected at all hazards. Keep the mind of the patient off his physical condition. For this purpose a change of surroundings is often advantageous. The beneficent effects of the Nauheim treatment, with all due regard for the importance of mechano-therapy and hydro-therapy, are in no small measure attributable to the suggestive influence of the place itself, a veritable paradise on earth, about which hover the traditions of the thousands of invalids who have thither wended their weary way to find hope and health in the romantic pine forests of the Taunus and its world-famed health resort.

8 W. Ninth St., Cincinnati, O.

## WHAT OF THE FUTURE ?\*

By DR. CHARLES GILBERT DAVIS, of Chicago.

The healing art rests upon a tripod—surgery, medicine and suggestion. To the intelligent and progressive physician it is a pleasant task to take a retrospective view of these various branches of his profession and note the wonderful strides that have been made in that science which strives for the alleviation of suffering, the promulgation of happiness, and the prolongation of human life.

For thousands of years man has been battling against disease. The struggle has been long and fierce, but steadily, inch by inch, the enemy has yielded, and now, in the dawn of the

twentieth century, we find that we have abundant reason to congratulate ourselves on the heights we have attained. In all three of these directions great progress has been made. Slowly but surely mysticism and superstition have been swept aside. The light of science has rolled back the clouds of ignorance, penetrated to the secret places, and brought forth the shining nuggets of golden truth.

*Surgery* for thirty years has made remarkable progress. The scalpel of the skilled operator, aided by beneficent anæsthesia, has touched every tissue and organ of the body, winning time

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and again triumphs that have startled the scientific world and won the applause of mankind. There is no question but what this branch of the profession has added thousands of years to the sum total of human life. Many valuable lives have been called back from the brink of the grave, mourning households made to rejoice, and happiness increased. The progress has been one continual series of triumphs, and the work still goes on. And so we have nearly, but not quite, reached the zenith of surgical preeminence. In the years to come, medical history will record the triumphs of surgery that marked the closing of the nineteenth and the opening of the twentieth centuries. *And then will come its decline.* It will have accomplished its evolutionary work in the healing art, and other methods will take its place.

I have not the slightest doubt but that long before one hundred years have passed, all malignant diseases will be treated by other means than surgical. This will remove a large field from the supervision of the operative surgeon. Again, I have reason to think that neoplasms of every kind, when we more thoroly comprehend the natural dynamics of the human body, will be overcome in their incipency without the knife. So, also, do I predict the same for calculous of the urinary passages and those of the bile ducts.

And there is the pelvic region, the great battle ground of modern surgery. Thousands of these cases will be prevented by antiseptic methods, and many of the pathological conditions of the uterus and ovaries cured by other means.

So may I predict the same of all forms of tuberculosis. With the wonderful progress of research we are now making, relative to this disease, it is sure to be overcome or retarded in its progress, and will never or seldom progress to the degree of operative necessity.

As the years pass the field of surgery will grow more and more limited, till in the course of time we shall find it restricted largely to traumatism alone. And, even here, it will be secondary, being limited simply to the adjustment and co-aptation of wounded tissue, while we depend upon improved methods for arousing nutrition to restore the injured tissues.

*Medicine*, including hygiene, the administration of mineral, vegetable and animal substances, the application of electricity and the various mechanical devices, has still before it a wonderful future. I cannot conceive, even in the remotest years to come, of a time that will arrive when man will not seek to better his physical condition by assimilating in his own body material aids to his well being, gathered from his environment. The object and aim of the planet on which we find ourselves located is undoubtedly the development of the human species. It stands then to reason, that all earthly things may be utilized for man's benefit. All is good! It can only be ignorance that for a moment could make us think otherwise.

In the depths of Mother Earth there are wonderful springs of nutrition yet unexplored, that when brought forth will destroy disease, revivify the tottering human form, and retard the ravages of time. The mineral, vegetable and animal kingdoms are rich with these undiscovered blessings. Every poison distilled in the laboratory of nature, every venom in the fang of poisonous serpent, every thunderbolt of lightning from the sky, carries a benediction for poor, cowering, trembling, undeveloped humanity. Whatever we may think today, the time will surely come when future generations will look upon the world and say: "All is good." What blasphemy to say differently! Away with the dogmatic religious sects who condemn doctors and



their medicines! I thoroly believe that medical science is doing more today to advance the evolutionary law which makes for the uplifting of man than all other branches of science combined. And yet, everywhere in medical practice there is change—constant, rapid and never-ceasing evolution. And this very change in methods of treating disease is one of the great evidences of progress. There was a time when the healing art seemed to stand still. It was surrounded by the fetish of superstition. But the bonds have been sundered, and science will forever remain unfettered.

And as this intelligence goes on the administration of drugs will grow much less. There is no doubt but what we today are taking too much medicine—*of the wrong kind*. Man is gormandizing—he is eating and drinking too much, till his body is writhing under the awful strain put upon every organ and tissue. The medical profession of the future will seek to remedy this by teaching him that he can live his life beautifully and be crowned with health and happiness thru sensible and temperate habits. The scientist of the future will seek to prevent disease, as well as to cure it.

The century upon which we are now entering will see mankind improved in habits of life looking to the importance of the race even in its pre-natal condition. The practice of medicine will be more simplified as it advances scientifically. The monstrous subterfuge of administering placebos will disappear, and behind every pill, powder or potion will be a *vera causa*. People will be better born, better clothed and fed. Every dwelling will be flooded with sunshine and pure air. We shall find means to draw down pure atmosphere from thousands of feet above the earth and have it distributed into every home. All of this will be accomplished through the medi-

cal profession. Consequently the administration of drugs will be vastly diminished.

Electricity, now so little understood, will play an important part in the medical future. Thirty years ago I began using a small Kidder's battery to administer electricity to my patients. But I kept it hidden under the bed to avoid the unpleasant comments of my professional friends when they called to see me. Now, no physician's office is well-equipped without electrical appliances. I look for wonderful advancement in utilizing this therapeutic agent to aid in restoring nervous energy. And all this will encroach gradually on the administration of drugs.

*Suggestion*, however, is destined to play the most important role in the life of man. I am now prepared to say that faith, hope, expectancy and belief are the most potent therapeutic agents known to the world. *Thought is the basis of all action*. Man is dual, possessing a conscious and a subconscious life. The subconscious life presides over nutrition and is wonderfully influenced by the thoughts generated in the conscious mind. Every thought we think has its effect either for health or disease, on every cell of the human body. Anger, fear, hatred, jealousy and despair, depress vital action.

Faith, hope, happiness and kindness stimulate the life forces and improve nutrition. The world is ill today, crushed down by the depressing weight of morbid thoughts.

Depressing thoughts create disease—they kill. Thoughts can turn the hair gray in a few hours, depress the heart's action, making the countenance turn pale in a few moments, suspend respiration, stop the flow of the gastric juice, and arrest digestion, retard the action of the liver and produce jaundice, constipate the bowels or produce diarrhoea, cause incontinence of urine, reduce the normal temperature or

create a fever, paralyze the brain, destroy consciousness. A thought can produce instant death.

Certainly an agent like this is worth reckoning with as to its action in curing as well as creating disease.

I am satisfied that thru suggestion, or the control of mind, the most wonderful results can be achieved in the destiny of the human race, morally, intellectually and physically.

Thru the law of evolution cosmic consciousness from the remote cycles of time has been struggling upward and has finally produced an animal—Man—who has a rapidly developing brain. He is just entering upon the exercise of this newly-developed organ—the brain—learning how to use it.

A new era is just opening up for the human family—the era of mind. Every man is what he thinks; every community is what they think; and every race or nation throws out a national characteristic, representing the aggregate of individual thought.

If this be true, how essential it is that thought should always be controlled. With beautiful ideals of health, purity and happiness, the growing intellect of the child should be taught to formulate healthy thought, and this will be whispered to the subconscious mind and the result will be a well-formed healthy body. Environment is everything, for it generates the thought that makes for health or disease.

I thoroly believe that, under proper conditions of life and healthy thought, man possesses within his own body all essential anti-toxines to destroy every pathological bacillus that may enter. If this is not true, why do we not all go down under the destructive action of the tubercular bacillis? Certainly we are exposed to these every day. Good living and wholesome thoughts

increase the *vis medicatrix naturae*, and the poisonous bacilli are destroyed as soon as they enter.

Two men equally healthy and exposed to the same condition during an epidemic. One says: "I am not afraid!" The other gives way to most abject fear, and pictures in his imagination his terrible fate. One lives—the other dies.

Has not this been demonstrated thousands of times? Fear lessens the vital action, obstructs the function of all the glands, retards the secretion of the gastric juice, diminishes the vitality of the red and white corpuscles—the standing army of the body—and so the invading host enters and takes possession, and destroys the life.

How often the healthy self-poised physician enters the sick room where the patient is cringing with despair and sinking under the burden of fear, and, by his strong personality, turns back the tide of fate, changes defeat into victory, and saves the patient's life.

You cannot deny this. You have all seen it done. What does this? Medicine, drugs, surgery? No, it is suggestion.

There is a something in the practice of medicine beyond the mere giving of drugs. Even the *puling infant* feels it. Study this; cultivate it; for without it you are nil.

I believe that doctors, like poets and musicians, are born, not made. But even if you possess it only to a minimum degree, you may feel it grow by effort. It takes a young physician sometimes twenty years to learn this. It is the great medicine of the future—not only for the body, but for the mind—the human soul. Every medical college should have a chair devoted to the subject of Suggestion.





DR. A. AUGUSTUS O'NEILL  
President of the Illinois State Progressive Therapeutic Society

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## EDITORIAL

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Chicago has not for a long time had the opportunity of witnessing so large an electrical display as is now being held at the Coliseum. The electrical show commenced January 15, and ends January 27. Everything new in the line of primary and secondary batteries as well as mechanico-vibratory apparatus is to be seen. Samuel J. Gorman & Co. have a chair fitted up with a vibratory attachment. Many a weary traveler's tired feeling disappears after a short seance here.

Scheidel & Co. have a great display of x ray and high frequency apparatus. The show is a grand success.

Dr. Max Reichmann, of Chicago, is to give a demonstration of x ray practice for the benefit of the profession, at the electrical exposition now being held in Chicago, before it closes. The date has not, as yet, been fixed.

Chicago capitalists have purchased the well-known firm of Scheidel & Co. and are incorporating the same under the style of The W. Scheidel Coil Co., for \$50,000, it being the intention of the firm to erect a large factory in the near future near Chicago.

In a paper read before the American Electro-Therapeutic Association, on September 14, 1905, by Dr. George Belton Massy, of Philadelphia, on the choice of methods in the operable cases of cancer, he gave some very interesting statistics. Out of 103 cases which applied for treatment at the Oncologic

Hospital, covering a period of eight months before the reading of this paper, nine were found unsuitable for any kind of treatment owing to the situation of the cancer and general systemic infection. However, 94 cases were placed under treatment, 64 of which were treated by Massy's cataphoric sterilizing method, 17 by the use of the x ray, 5 by the use of the knife, 4 by cataphoresis and the x ray, 2 by cataphoresis and the knife, and 2 by the knife and x ray. Of the above number 32 have been discharged with no evidence of recurrence, and the balance are still under observation and treatment. Of the 32 discharged, Dr. Massy does not say how many were treated with each method. For Dr. Massy's cataphoric sterilizing operation the patient is placed on an electrode of absorbent material large enough to take in the space from the shoulders to the buttocks; this pad is in contact with a large sheet of metal, which is, in turn, attached to the negative pole of an electric generator, the positive pole being attached to several zinc needles connected with flexible insulated conducting wires; these needles are dipped into an acid solution and then into mercury just before using. One needle after another is thrust into the outer edge of the tumor, and the current turned on with strength varying from 50 to 1,500 m. a. of current for from twenty minutes to two hours, depending upon the case and the work to be done. These needles are placed from a quarter to half to three-quarters of an inch apart, and

they are shifted every twenty to forty minutes, until the whole tumor has been destroyed; after a period of two or three days or more the tumor sloughs out. If the operation is properly performed (under an anæsthetic), the effects of the positive pole is to dehydrate the tissues, cutting off the circulation, sealing up the channels from further infection. The zinc electrode amalgamated with mercury being electro positive, coming in contact with the body, is decomposed, and the ions driven from the positive pole into the tissues, while in immediate contact with the electrode the oxygen and chloride is attracted to the positive electrode forming the oxychloride of zinc and mercury, which is in itself a powerful antiseptic, and renders the tissue in contact with the needles antiseptic. The only reason why this method is not a popular one is because it requires a skilled operator, and they are very few; it is very dangerous in the hands of the unskilled. In the opinion of the editor this, or a modification of this method, is more promising than any other, not only because it closes the channels, thereby preventing systemic infection, but renders the tissues sterile. We sincerely hope that in every hospital an opportunity be given to test this method before the knife is used. So long as the knife is the first choice, so long will we be kept in utter ignorance of other methods; we know what the knife will and will not do. We hope in the interest of humanity that the surgeon will spare us a few cases, so that a more reasonable and rational method may be developed.

#### **The Cancer Problem**

We give this month several articles bearing on this subject. Those who favor the parasitic theory find insuperable obstacles in the way. The Imperial Research Fund and the Research

Laboratory in Buffalo, are conducting interesting experiments, but, as yet, have not arrived at any definite conclusion as regards the problem presented by the disease. We need to know more in regard to those cases where cancer has been reputed to grow from contact in the same individual; also proof of its transmission from one to another. We must know if carcinoma in transversion will produce carcinoma, or whether it will prove to be sarcoma in one person and carcinoma in another. We need to have more cases where there appears to be proof of contagion reported. We have given the views of Butlin, who is an advocate of the parasitic theory.

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#### **Are the Problems of Cancer Insoluble?**

(*Lancet*, December 9, 1905.)

In his consideration of this question Dr. E. F. Bashford suggests that we are apt to hold opinions too positive on the question in view of our actual knowledge of the subject. In the old time theory governed; now we know that both man and animals suffer from cancer wherein the histological lesions are alike. The age condition shows in both. Cancer is transmissible within certain limits. Climate, food and environment play little part in its etiology. Civilization tends to prolong life to the cancer age. While we know that cancer grows after the death of the original host, artificial propagation shows us nothing of its origin. In propagating cancer of the breast the new growth retains its original characteristics, they do not tend to merge into a common type. Artificial propagation gives an opportunity to study cancer in detail. This has changed former views as to its nature. The proliferation of cancer has not been measured. Its study suggests old problems. Why is the growth of can-

cer relatively so great? Are growth and cell division always progressive? How is the growth of cancer maintained. Modern study and experiment promises an answer to these questions, when we may be able to explain the etiology of the disease.

### Cancer

Dr. E. A. Babler, in the *St. Louis Courier of Medicine*, January, 1906, gives the views of leading investigators as to the etiology of cancer.

The true etiology of cancer remains an unsettled question, even though very extensive researches have been made to elucidate the subject. Von Leyden and others continue to favor the parasitic theory, while Orth announces in emphatic terms his adherence to the cellular theory. He believes that if parasites are present they are intracellular and play a secondary, and not the chief role as an etiologic factor. The Harvard Commission tends to attribute cancer to inherent changes in the epithelial cells, rather than to the presence of parasites. Farmer, Moore and Walker found that in the very earliest stages of cancer there is a peculiar behavior of the leukocytes. Immediately within the zone of transition from the normal to the cancerous elements the leukocytic crowding was most strikingly apparent. Neither the leukocytes nor the invaded tissue cell appeared to be affected injuriously. A complete disturbance of the normal chromosome constituents of the cell was noted. Von Bergmann has never observed primary carcinoma of the extremities without a preceding cutaneous lesion, scar, wart, fistula opening, ulcer, eczema or mole. The one important factor in the treatment of cancer is early removal. A suspicious tumor, or one likely to become cancerous, should not be permitted to grow.

### Carcinoma

(*British Medical Journal*, Dec. 16, 1905.)

That carcinoma is due to a parasite is an opinion having a reasonable basis. In his Bradshaw lecture, Butlin takes this ground. It is parasitic, not in the ordinary sense of infective, but in the sense of one organ living at the expense of another. Carcinoma depends on the growth and reproduction of its own cells, and is not a change in neighboring cells. The framework of carcinoma is derived from the connective tissue of the part in which the carcinoma grows. It is a simple form of animal life. Reproduction takes place by mitosis and by amitosis, and the conjugation of nuclei has been observed in carcinoma of the highest as well as of the lowest animals. Cancer cells are tenacious of life. Cancer locates in certain tissues and organs which are suited to the support of the cancer cell. Cancer is not inherited, but rather the tissues and organs which favor its growth are inherited. Age gives susceptibility to cancer, but not dwelling, climate or soil. The evidence that cancer is parasitic is the following: It first appears on the surface of the body. The natural course of cancer is similar to ——— by its inoculation. Its liability to occur in certain districts suggest it as a parasite from outside the body. The opposing evidence is that the carcinoma cell corresponds to the character of the epithelium of the part in which it first occurs; squamous carcinoma corresponds to squamous epithelium; columnar to columnar, and spheroidal to spheroidal types. The stroma of the three types of growth is peculiar to that type, with certain limitations, and is not common to all three. While the tissues of the young are suited to the growth of cancer cells it is essentially a disease of advanced life.

*Exophthalmic Goiter and its Treatment* (*British Medical Journal*, Nov. 11, 1905).—George R. Murray says that some enlargement of the thyroid gland is one of the most frequent symptoms of exophthalmic goiter. In all cases of this disease there is an increased frequency of the pulse. Although exophthalmos is so obvious when present, it is entirely absent in many cases. The mental condition in this affection is peculiar, and in some cases is noted before the appearance of the other signs. In its typical form it is a state of subdued excitement or nervousness, such as is seen in a person undergoing some trying ordeal. It varies in different cases. Actual insanity develops in a few cases. One of the most constant symptoms of exophthalmic goiter is a fine regular tremor of the hands. The skin, as a rule, is rather pale, although it is sometimes flushed. It is often moist or greasy in appearance from the increased sebaceous secretion. Pigmentation is observed in a few cases. The treatment of this disease is a matter of considerable difficulty. The combination of rest with open air gives excellent results. One of the most valuable methods of treatment is the systematic application of a faradic current. This treatment should be perseveringly given. In certain cases the x ray has met with good results. The results of the administration of small doses of arsenic have proved this medicament to be one of the most useful drugs in this disease. In some cases, superarenal and thymus tablets have been of service. The writer believes that the risk of surgical treatment is so great that he does not consider partial thyroidectomy advisable in exophthalmic goiter. As yet no serum or other animal product can be considered to give better results than general hygienic treatment combined with the use of electricity and certain drugs.

*The Importance of Dosage and Method in the Radio-therapeutical Treatment of Certain Neoplasms*, by Dr. J. Belot (*Journal Physio-therapie*, 1905).—Since the Roentgen rays have occupied such a preponderant place in therapeutics there has been a great deal of discussion regarding the local reaction which results from their use.

Some advise as a systematic routine the inflammation of the whole area of the skin involved. Others more timorous, advise against even a slight erythema. Still others declare that visitation and superficial erosion of the skin is absolutely necessary. Not only is there a difference of opinion regarding the degrees of reaction, but different modes of application are advocated.

The many diverse methods utilized by specialists may be classified in two great groups.

They first comprehend all the procedures, which stop with the first sign of reaction, or they give only short seances which may be augmented progressively in intensity. Others begin with radiations of medium intensity, which are progressively diminishing in duration. In either case the treatment is suspended on the appearance of skin reaction.

In the second group may be included all those procedures which consist in causing the absorption of a certain quantity of the x rays, followed by the appearance of the reactional phenomena. This quantity may be given at one sitting, or distributed thru several.

The methods of the first group are being less and less used as they are empiric and dangerous. Those of the second group are more scientific, because the amount of energy utilized is not mere guess work, and because they accord with the fundamental law that "all therapeutic agents ought to be employed quantitatively and exactly."



All know that certain medicaments give very different results and produce widely different effects accordingly whether massive or fractional doses be administered.

The x rays comport themselves in a somewhat analogous manner.

Each operator should decide scientifically whether the dose absorbed should be always just short of what would produce a radio-dermatitis. It must also be determined whether the therapeutical effect will always be the same after the absorption of a fixed quantity of the radiations when administered at one sitting, or distributed over several sittings, separated by one or two days of rest.

It can be positively affirmed that a radio-dermatitis is never necessary for a cure of affections treated by the Roentgen rays. It is not as some seem to think, an adjuvant; the patient is not cured because of the production of a radio-dermatitis. It will suffice to convince anyone when they recall the numerous affections which can be cured by the x ray without the least appearance of any cutaneous reaction.

The Roentgen rays, properly applied and in proper dosage, will produce an alopecia without any preceding local inflammation, and without any accompanying loss of hair.

Certain cases of anæmia, leukæmia, and even epithelioma retrocede without local reaction.

Hence, radio-dermatitis ought to be considered as an accident, but this accident many times is inevitable.

In the treatment of syphilis, the amount of mercury which is given varies with the tolerance of the individual, but above all with the gravity and stage of the disease.

The resulting stomatitis is an accident, which ordinarily it is impossible to prevent, but when the lesions are grave and the condition of the patient serious, there is never any hesitation

about administering large doses because of the likelihood of causing a severe stomatitis.

A radio-dermatitis is no more necessary for the cure of rebellious neoplasms than is a stomatitis in the treatment of syphilis; both are all but inevitable; they are small ills encountered in securing a great good.

A radio-dermatitis is a necessary evil which accompanies the retrocession of certain malignant affections which will yield only to the absorption of a dose of the Roentgen rays equal or superior to that which is capable of a severe inflammatory reaction of the interposed integuments, and this dose must be given at a single sitting.

In a case of a neuroform epithelioma, measuring 3 centimeters in diameter and 3 centimeters in height, I caused 10 H. to be absorbed at a single sitting, using rays No. 7 and No. 8. Eight days later I gave again 7 H. units. The tumor diminished very rapidly and the patient seemed all but cured. Still to be sure, I continued the treatment employing less elevated doses. I insist that in such cases, especially when prominent surgeons have refused to operate, or have repeatedly operated in vain, that it is worse than useless to administer light and repeated doses (fractional doses). The amount cannot be measured by any instrument; not the slightest result is obtained, and it doesn't arrest even the development of the neoplasm.

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*Lymphatic Leukæmia*, by A. L. Gray, M. D., Richmond, Va. (*Virg. Med. Semi-Monthly*, 1905).—A case of lymphatic leukæmia was recently treated by me with the following remarkable results: On beginning the x-ray treatment (January 14, 1905) the blood examination, made a few days previously, showed leucocytes 140,000; lymphocytes, 90 per cent.; January 27, number of treatments,



four; leucocytes, 45,000 per cubic millimeter; February 6, number of treatments, four; leucocytes, 25,000 per cubic millimeter; February 16, number of treatments, five; leucocytes, 16,000 per cubic millimeter; February 23, number of treatments, four; leucocytes, 15,000 per cubic millimeter; March 2, number of treatments, four; leucocytes, 10,000; total number of treatments, twenty-one. His spleen was reduced from the size of a breakfast plate to nearly normal. Along with the improvement in the blood count, there was a general improvement in his physical condition. In beginning treatment, he could scarcely stand, had no desire for food and suffered with constant nausea. He had fissures in the margin of each nostril, in the nasal septum and also in the anal margin. These entirely healed, and when he left on account of business affairs at home, he was able to walk wherever he wished and was eating heartily. This man died about May 1st with what was diagnosed as acute tuberculosis.

*Activity of Radium Rays upon Rabies Virus*, Tizzoni and Bongiovanni (*Centralblatt für Bakt.*, etc., xxxix, No. 2, p. 187, 1905).—The authors found that the rays emanating from radium were actively destructive to rabies virus, so that when the virus was placed in glass tubes an exposure of two hours invariably resulted in its death; if the exposure was continued for but one hour the animals into which it was injected died after a much greater lapse of time than the controlled animal. The rays were also shown to be active in the bodies of animals as well as upon virus exposed to them in glass tubes, especially if applied at the same moment as the virus is introduced. A satisfactory result which has therapeutic application was also secured when

the use of the rays was postponed an hour after the infection began. If, however, they were postponed for twenty-four hours they produced no beneficial result. The application of the rays to the nervous system was made thru the eye, and it is believed that by thus applying the remedy all parts of the nervous system can be reached.

*The Treatment of Indurations with Radium* (Dr. O. Kahler: *Wiener klin. Woch.*, 1905, No. 32).—The author working at Chiari's clinic treated a case of partly ulcerated indurations, which involved the lip (sklerom), the nose, and the hard and the soft palate, with radium.

Shortly after the commencement of the treatment with the radium, the infiltrations became soft, and epidermis began to grow from the edges of the ulcerations to cover the bare spots.

The radium was only used for a short time on account of the extent of the indurations, and the treatment was continued by employing the Roentgen rays. Under this treatment the case further improved.

The author prefers the employment of the Roentgen rays in skleroma showing itself externally; he expects excellent results from the use of radium in those indurations which are placed deeper in the tissues, especially in the sub-glottic types of cases.

*Radium Emanations in Diseases of the Ear, Nose and Throat* (*Medical News*, 1905).—W. C. Phillips, M. D., *Rev.*, Oct. 26, 1905).—W. C. Phillips, Experiments with Radium Emanations. After careful experimentation with some seven cases of nose, throat and ear diseases, the writer found that his method was useless. Treatments were given at regular intervals in selected patients, but no beneficial results could be noted. For

the administration of the radium a specially constructed tube was made with a lining of pure radium, and the said tube showed its results in the polariscope. The details of the experiments were conducted by Dr. S. J. Kopetzky.

*Rodent Ulcer Treated by Radium Bromide.*—Manby (*British Medical Journal*, 1905) reports the case of a man seventy-six years old who had suffered for ten years with a rodent ulcer situated over his right malar bone. He was treated by tying a tube containing five milligrammes of radium bromide between the ulcer and a layer of gutta-percha. The treatment was repeated twenty-six times for a period of twenty minutes each. In this period the whole surface was covered with a delicate but natural looking skin. The patient considered himself cured, though there was still a raised nodular inner margin.

The second case suffered for two years from an ulcer on the left side of the face, about one inch in diameter. After nineteen applications averaging fifty minutes each the ulcer was so perfectly healed that it was difficult to localize it, the skin looking non-cicatricial.

The third case was also cured.

*Radium in Naevus Carcinoma* (*Charlotte Med. Jour.*, Oct., 1905).—Hartigan (*Brit. Jour. of Dermatol.*) reports two cases successfully treated by radium bromide. The first was a large port-wine naevus affecting the whole of one cheek in a woman of twenty-six years. The treatment lasted nine months, during which thirty-nine exposures were given, varying from half to one hour. The naevus entirely disappeared, with the exception of a few untreated areas. The amount of radium used was 10 milligrammes.

Usually within twenty-four hours an erythema occurred, followed by vesicles, which fell off as scabs in a few days, leaving behind a thin white skin. The second case was one of scirrhus of the mamma in a woman of sixty-six years, of sixteen years' duration. Operation was declined. There was an ill-defined lump in the breast, retracted nipple, adherent and puckered skin. Three years ago the skin ulcerated and bled a good deal; much pain; no glandular enlargement. The patient received forty applications of radium bromide, lasting twenty minutes each. Twenty milligrammes of radium were used. The pain disappeared, hæmorrhage ceased, and the ulcer began to heal. Later the growth disappeared and the ulcer had healed.

*Exophthalmic Goiter Reduced by Radium* (R. Abbe, *Archives of the Roentgen Rays*, 1905).—The writer reports the first case in which radium has been applied. On account of the different effect of Roentgen rays on ulcerated and unbroken skin surfaces, it occurred to him that while radium outside of goiter would be ineffective, inside it might have striking results. Under cocaine anaesthesia he made a small media incision, dissecting down to the isthmus of the thyroid. Into this he thrust a small bistoury, making a deep enough incision to bury a sterilized tube of radium at right angles to the skin and an inch deep. It was held in place by dressings and straps, the patient keeping her head fairly quiet, for twenty-four hours. The glass tube was one-eighth inch in diameter, and contained 10 centigrams of Curie radium. At first the gland seemed a little more swollen. In four months it was only a sixth of its former bulk. All unpleasant symptoms, including a sense of suffocation, severe headaches, inability for exertion, tremor, etc., disappeared. Some tachycardia remained.

*Radiation in Cancer (Maritime Med. News, 1905).*—J. J. Carbett, M. D., St. John, argues in his paper strongly in favor both of pre and post-operative use of x-rays and radium radiation in all cases of cancer. The treatment should be combined with the administration of some drug which causes fluorescence.

*Dysmenorrhœa*, by J. H. East, M. D., Denver, Col. (*Alkaloidal Clinic, 1905*).—*Case 1.* Miss E., age 28, had suffered from painful menstruation since she was thirteen years old. Family history good and she had always lived an active life, but the menstrual period was attended with such intense pain and weakness that she was compelled to lie in bed for at least three days of the time and hot applications and hypodermics of morphine were usually resorted to for relief. For a week following the period she would be in a state of nervous exhaustion, while the week prior was filled with dread of the approaching ordeal. She had been tamponed by several physicians and taken tonics of all descriptions without benefit. Four years previously she had had os dilated and uterus curetted with but little relief.

On examination I found the uterus slightly anteverted and ovaries sensitive; spine tender and bowels constipated.

June 1, 1904, I placed her under treatment by using mechanical, vibratory stimulation as follows: Ball attachment with medium stroke and medium pressure between the transverse processes of the vertebrae from the tenth dorsal to the coccygeal nerves inclusive, keeping the ball at each point from ten to fifteen seconds. After using the ball the brush attachment was used over entire spine, treatment being directed over the spinous processes. This was repeated every

day for a week prior to, and one day of the menstrual period. I also used cup attachment over abdomen for the relief of constipation, applying force from right to left to stimulate peristalsis.

I gave patient granules of caulophyllin, gr. 1-6, with directions to take one every three hours until the day prior to menstruation, when they were to be taken every hour, then every three hours again during period.

Menstruation came on at regular time with little pain and patient was up every day after the first.

The second month the treatment was repeated, as above, with the addition of the imimitable triple arsenates with nuclein, three before meals, and the period was passed with little discomfort.

After the third month the patient received but two treatments before the period and that for only two additional months. She is gaining strength and flesh, constipation has disappeared, appetite is good and her nervous system is at par. She has not taken a dose of morphine since coming under my care; is cheerful instead of melancholy, and the menstrual period no longer has any terrors for her.

Three other similar cases, recently treated, I could report with equally satisfactory results but will pass on to one of greater severity since the mind was threatened.

*Case 5.* Mrs. W., age 38, came to me February 10, 1905, with a history of severe headache for three years. Menstruation had commenced at the age of fifteen. Had given birth to one child at the age of twenty-five. Labor normal, except prolonged, and recovery good. For a long time previous to consulting me menstruation had been coming on every ten to fifteen days with pain, severe headache and lassitude. Bowels regular, kidneys normal, specific gravity 1020, no sugar,

no albumin. On examination found slight laceration of *cervix uteri* and parts very much inflamed and engorged. Had been treated by a number of physicians in various ways with tampons and douches, cathartics and sedatives. Had had glasses fitted, tried change of climate to no avail, and felt she was on the verge of insanity. There was marked sensitiveness over the posterior and primary divisions of the spinal nerves from the eighth to twelfth dorsal, increasing in severity over the lumbar nerves.

Treatment, consisting of vibratory stimulation, using the ball attachment, was commenced immediately after menstrual period and continued every day, confined to the sensitive points. The brush attachment was used the entire length of spine, over the supra-orbital nerves, over the casserian ganglia and also over the kidneys and liver and quadratus lumborum.

For internal remedies she received Buckley's uterine tonic, one every hour, and triple arsenates with nuclein, three before meals.

The patient went this time twenty-four days before menstruation, which came on naturally, with little pain, while headache and neurasthenic conditions were markedly decreased. The second month treatment was continued as before, improvement being very decided from day to day. Menstruation did not appear until the twenty-eighth day, coming on normally and with little pain. During the third month one headache occurred, but it was so much less severe than her former attacks that she was able, even while suffering from it, to come to the office and receive treatment, sleeping the entire night afterward, something unheard of after her usual headaches. Improvement during balance of month was rapid and menstruation appeared normally at the regular period. As in previous cases, all pains were con-

trolled and natural functions were established.

Although this patient considers herself cured, I advised two treatments a week during the following month and one a week during the next to assure permanent results, as the neurasthenic condition, on beginning treatment, was very marked. She will also continue the internal remedies at longer intervals.

In all these cases surgical intervention had been urged and in some tried without benefit.

#### **The Neurasthenic State Caused by Excessive Light**

(*Medical Record*, December 23, 1905.)

Major C. E. Woodruff, surgeon U. S. A., calls attention in this article to the injury to health caused by exposure to an excess of light. We have become so accustomed to regard light as always beneficial to health that a contrary view comes to us as a revelation. Dr. Woodruff is the author of a work on "The Effect of Tropical Light on White Men," which shows the scope of his studies. We believe his suggestions are of practical value and we give brief space to a consideration of his paper.

Light destroys practically all bacteria; which suggests its use as a therapeutic agent. Every growth, whether malignant or benign, is curable by concentrated rays. We have in use blue and violet, ultra-violet, x ray and the light from radium. Tubercle bacilli are killed by blue-violet and cancer by x rays or radium rays. We fail to realize that short waves are always destructive. We have supposed that light is always beneficial, and exposure to the sun's rays—filling our living rooms, schools and workshops with great streams of light—could never do harm. Light hinders growth, dark-



ness favors it. Men grow big in dark climates and little in the light ones, with some exceptions. The growing cells of plants always function in the dark. The same is true of animal life. Animals exposed to light are protected by hair, feathers or skin pigmentation. In man, the dark races belong to the tropics; blond to cold climates. If a blond migrates from a dark, cold climate to a lighter country, he will be damaged by the light. Blond races flowing southward in Europe do not permanently survive. In this country brunettes are gradually increasing, while blonds are slowly becoming extinguished. In the South the vigorous types of white men are notably brunette. An excess of light, if intense, will destroy protoplasm, or, if less intense, will have a parietic effect. The x rays destroy tissue, while sunstroke causes neurasthenia. If the light is too strong, abnormal cells are destroyed and normal also. Repeated damage by light of normal cells will make them malignant. We only aim to injure the abnormal cells in lepers, but we injure the normal cells. Under the influence of excessive light, not strong enough to be fatal, carbonic oxide is excreted in large amounts, which ultimately results in exhaustion; and this we find in the tropics among those who are careless in exposing themselves to the sun, and suffer from neurasthenia. Women suffer more than men, as having less resisting power. At first the effect is favorable, but later the nervous system becomes weakened. The strong and muscular yield more readily than the frail ones. Residents in India show this. In the Philippines blonds suffer more than brunettes, showing their unfitness for the climate. In American cities, where the light glare is so intense in summer, we observe a like effect. In European cities there are more brunettes, in the coun-

try more blonds; and a like effect is now taking place here. The process is slow, but we see that cities are consumers of population. In like manner blond families die out in the South. X ray workers are sterilized, just as the ova of animals are killed by exposure to x rays and radium. In like manner healthy parents who move to the city cannot procreate healthy children. They are neurasthenic and die early. Blond infants do well in the Philippines, as a rule, if kept from the light. Blond neurasthenics come from the South, while in the northwest corner of the United States, where it is cloudy, they flourish. Pigmentation serves as a light screen also. Suicides are more frequent in the lighter months of the year, and chronic manias are worse after several days of intense light. School children are more irritable after several days of bright light streaming into the school-room. There is a curious blinding headache, resulting from light glare in the Philippines, even when there is not an excessive heat. The remedy is a darkened room. It is a dreadful pain, and is more marked in the blond, the neurasthenic and in women. In general, gloomy weather has a soothing effect and there is less crime—a view contrary to public opinion. Electricians, who work with high tension currents, become neurasthenic. The effect of the current is similar to light. Workers with the x ray are affected in like manner. Neurasthenics should seek a northern, cloudy, dark climate. Light is one of the causes of neurasthenia, and cannot be attributed to the heat. A neurasthenic in the South goes to a northern sanitarium and much of the good resulting is due to the relief from excess of light. In the rest treatment of Weir Mitchell, the patient is removed from light irritation. Residents of our Rocky Mountain table

lands are obliged to seek a lower level to escape the ultra-violet light. American women, particularly blonds, do not flourish in Arizona and New Mexico, where the streams of light are excessive. To be safe from this light one must be as dark as an Apache Indian. The degeneration of blond families on our Western plains is notable. A latitude of 50 degrees or 60 degrees, as in Norway and Scotland, is best, but that of northern New York is vastly better than that of 30 degrees or 35 degrees, which is the zone of the Southern states. Residents of north-western Europe are phlegmatic, but move them to the United States and in one generation they become as nervous as the rest of us. American "nerves" are due to climate rather than the strenuous life. Natives of the Mediterranean basin avoid the light as much as possible, especially at midday, and, as the sun glare in our cities is similar, we should advise our nervous patients to avoid it in like manner. Some light is essential, but an excess is injurious. In the treatment of tuberculosis, blond cases should not go South. In patients prone to hemoptysis sun exposure is almost certain to cause hemorrhage. The worst results are more likely to be found in the blonds. We must revise our old estimates of the value of light in the treatment of tuberculosis. It has proved efficient locally in superficial infection, and may even be made to penetrate the lungs and effect cures, but it is a question whether prolonged exposures to the sun are not more harm than good, particularly in the case of blonds.

#### Cataphoresis in Malignant Growths

By F. O. MARSH, A. M., M. D.,  
Cincinnati, Ohio (*Medical Brief*, Jan., 1906).

The modern method of destroying

malignant growths by means of cataphoresis is not to be confounded with the Apostolli method of treating fibroid tumors of the uterus. Cataphoresis, anaphoresis, or simply phoresis, are terms in medical and surgical parlance expressing what is known in the modern physics as the migration of ions, and signifying more than the older and more familiar term, electrolysis. Electrolysis, pure and simple, means merely electric decomposition. Cataphoresis takes note of the attendant movement of the ions or electric units into which chemical compounds are decomposed, and their disposition in the medium surrounding the electrodes, their velocity of migration, etc., all have been studied to practical surgical account.

The full surgical use of cataphoresis, the writer is convinced, should not be confounded in value with the fashion in vogue some years ago of attempting to force drugs through the skin for general or local absorption by means of the galvanic current. Owing to the comparatively feeble currents used, there is every reason to believe that the results attained were more often imaginary than real. Often the results claimed were entirely visionary and founded on misconception. The idea of driving iodine, as such, through the skin by the application of the negative pole, is quite a delusion.

True it is that, after a sufficient time, with enough current, the iodine disappears, but it has simply entered the skin as sodium iodide. The writer has repeatedly demonstrated that by causing the vapor of chlorine gas to impinge upon an artificial conducting medium, after stopping the current, the iodine cloud develops at once, revealing its exact position.

In the ordinary operations of electrolysis with which we are familiar, an effort is made to select electrodes



which resist chemical attack, as gold, platinum or iridium.

The modern surgical cataphoric operation is done with a positive electrode of zinc amalgamated with mercury purposely selected with a view to the development of the chlorides or oxychlorides of zinc and mercury and their diffusion through the surrounding tissues.

A major operation of this kind is done as follows:

The one hundred and ten volt direct Edison current, or a current of similar strength from a sufficient number (about sixty) battery cells is employed. An efficient controller must be inserted in the circuit, best of the graphite type, for turning the current on and off very gradually, without shock to the patient.

A milliammeter capable of registering a thousand or fifteen hundred milliamperes should be in the same circuit with the patient, for keeping track of the current strength employed. The patient having been thoroly anesthetized is laid with his back upon a broad clay pad, which should be large enough to cover the whole back and even extend down under the buttocks and under surface of the thighs. The clay electrode, soaked in warm water to increase conductivity, is in immediate and intimate contact with the skin, the lower surface being also in contact with the negative plate of sheet lead.

The positive pole is connected by a leash with three or four amalgamated zinc points, which are thrust into the substance of the growth to be destroyed.

The current is then turned on very gradually till the milliammeter indicates a current of one hundred and fifty to two hundred and fifty milliamperes to each point, the total current rising to a strength of seven hundred or eight hundred milliamperes or more.

Of course, care and circumspection must be used in the neighborhood of important nerve trunks, the phrenic, pneumogastric, etc.

By the cataphoric diffusion of the zinc and mercury salts the growth is gradually devitalized and converted into an odorless eschar, which subsequently separates.

The writer has long been impressed with the possible advantages of this method of treating malignant growths which originated in the hands of Dr. Massey, of Philadelphia.

During a recent visit to the American Oncologic Hospital, of Philadelphia, incorporated and put in operation within the last few months, for the treatment of cancer and tumors in general, my previous conceptions as to the value of this procedure were amply justified.

In this institution the cataphoric operation is in frequent use and gives excellent results. The advantages which can be fairly claimed are these:

1. It is a bloodless operation, which is a minor consideration, but one worth taking into account.

2. There is no effusion of lymph or creation of fresh surface during the operation. If there is any foundation for the growing feeling among surgeons that there lurks a possible danger in these operations of accidental re-implantation of cancer cells, this is a matter of prime importance.

It is, perhaps, not superfluous to call attention to the fact that, according to such a conception, the ordinary asepsis against bacterial invasion constitutes no barrier to cancerous re-infection, but may even facilitate it, as in the case of a successful skin graft, where asepsis favors cell preservation. In other words, is it possible that surgical care may promote the transplantation of morbid epithelium when it is not expected and not wanted?

These considerations, together with the actual results, indicate that the danger of recurrence is diminished.

A noticeable fact is the absence of pain after the operation and the absence of odor in the eschars, one of the most objectionable and repulsive features of handling these cases being thus removed.

### Leukemia

(*St. Louis Courier of Medicine.*)

A case or two of leukemia has been reported benefited by the x rays. Dr. E. A. Bobler reviews the treatment of this disease. Schaeffer regards leukemia to be of the nature of a systemic sarcomatosis of the lymph and blood-producing organs, and not of infectious origin. The permanent results obtained by Roentgen therapy have not been satisfactory. Edsall believes that the effect of the rays in this affection is a reaction of the individual, and not the direct action of the ray itself; the most probable explanation is that the autolytic processes of the body are stimulated; the results indicate that the process is comparable to resolution in pneumonia. In reviewing the literature I have not found a case permanently cured by means of the rays. The appropriate remedy has not yet been presented. The blood of patients treated with Roentgen rays tends to return to the leukemic picture as soon as the treatment is discontinued, but many cases are temporarily benefited by the rays.

### Massage of the Nerves

Cornelius says on this subject, in *Therap. Monatsh.*, May, 1905, p. 227, that nervous influence circulates in the body along a closed circuit; that only at certain nodal points of the circuit can nervous impressions originate, which are thence transmitted to the

circuit itself; and that a nervous impression once started from a nodal point always terminates in another nodal point. The nervous impression, which is first exciting and afterwards sedative in its effect, travels in the form of a wave. A mechanical action exercised at a painful point is capable of freeing it from pain for a certain time. Massage of the nerves by the finger is practised without the intervention of fatty bodies, so as not to blunt the tactile sensitiveness of the operator's finger. He seeks for all the nodal points of the painful area either by superficial or deep digital pressure. All these points, particularly the most sensitive ones, are then massaged. At first the pain is increased by massage, but, afterwards, a progressive decrease of sensibility in the painful spot ensues. If some of the painful spots are not touched during the rubbing, they afterwards become more painful than they were before. It is to be noted that nervous impressions bear a relation to the tension of the general circuit, and this tension is under the influence of congenital and acquired factors. The exciting or sedative reactions produced by massage of the nerves are either cerebral or peripheral (sensory, motor, secretory, vasomotor). If the nodal points are situated at a depth so great that they cannot be reached by the finger, massage of the painful nerves is inefficacious; if the disease is too far advanced the reactions following massage become particularly intense. This form of massage requires much patience and practice, and should not be attempted except by physicians who make a specialty of it. Without neglecting general treatment, massage of the nerves has been found useful in painful conditions of the nerves, arising from tuberculosis, diabetes, cancer, neurasthenia, hysteria; it is also said to be useful in sea-sickness.

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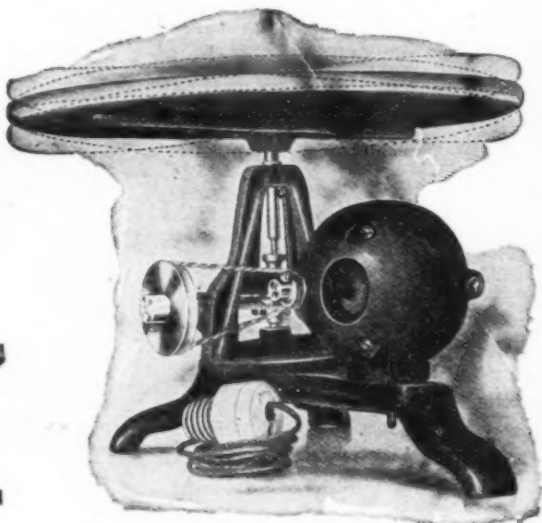
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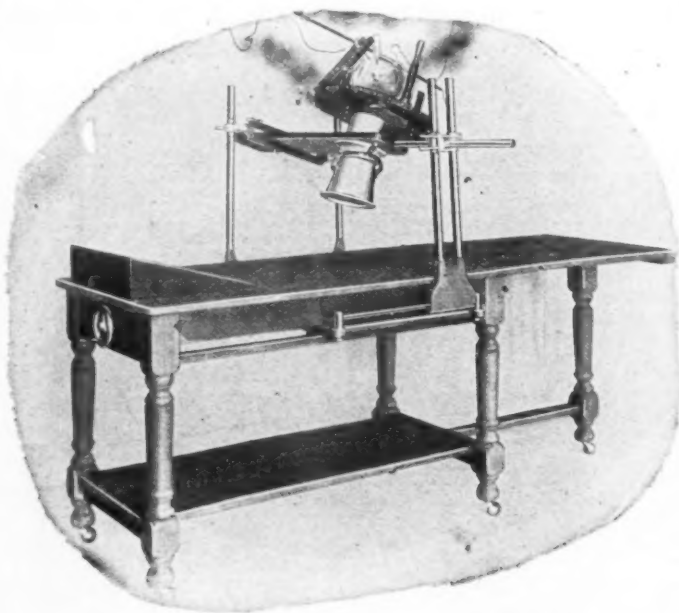


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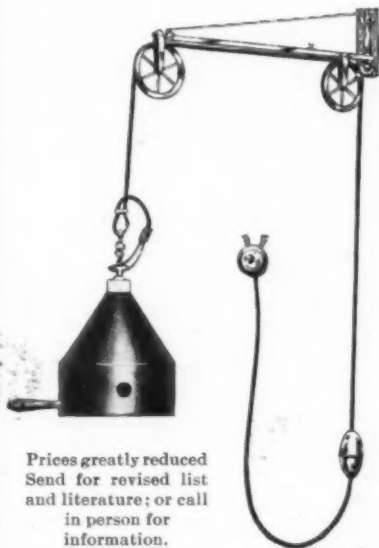
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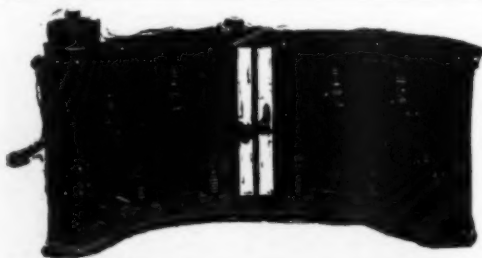
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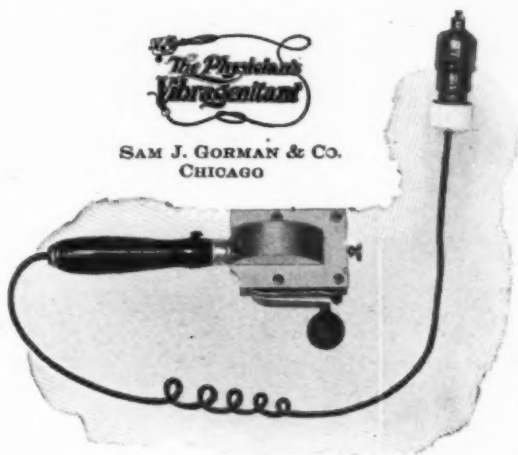
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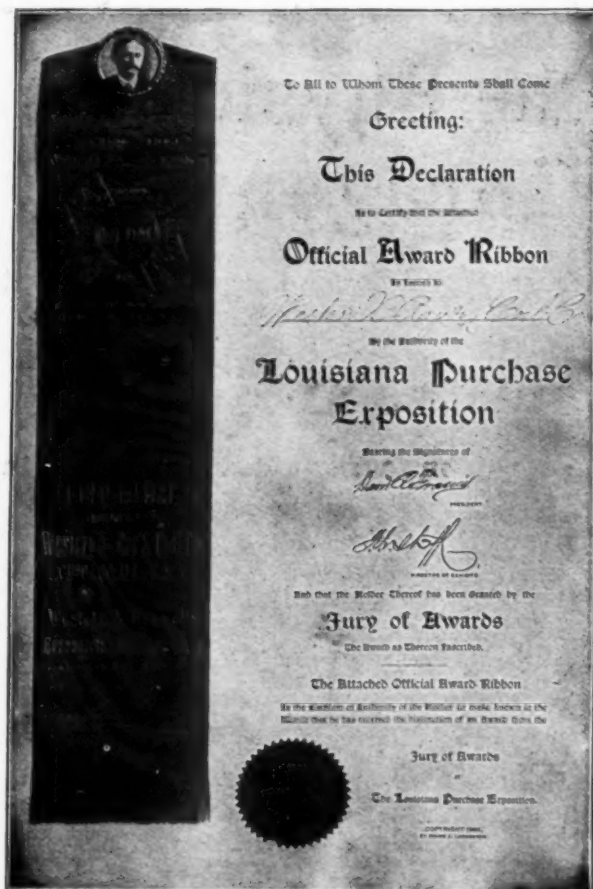
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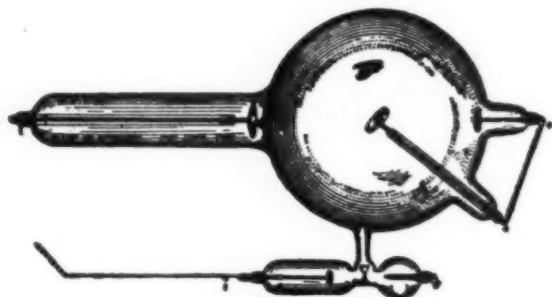
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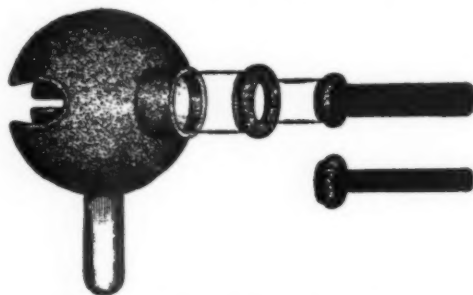
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